SAFESIGHT ™ SC0301-SC3102

Reverse back up camera system

Installation Guide and User's Manual

Version 1

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1. Introduction

Thank you for purchasing the Safesight SC0301-SC3102 reverse camera system! This system will help prevent the most deadly type of automobile accidents, reversing accidents. All that's left is to install and use your system. In the following information we will guide you through installing your system and getting the most out of it.

First we begin with a couple of things you should have on hand to help with the installation of your system:

- Voltmeter or DMM
- Basic hand tools, i.e. (pliers, screwdriver, socket set)
- Electrical tape
- Wire ties
- Crimp connectors
- Wire crimper

1.1 Notes and Warnings

To help the installation process go a little smother, we've included a notes and warning notification section.

The notes section will help elaborate and expand on key points, while the warning section will highlight/prevent potentially harmful situations (as shown below).

Note: Notes will be highlighted in this yellow box.

Warning: Warnings will be highlighted in this orange box.

2. Installation/Setup

We begin by identifying the contents of the back up camera system:

1. LCD Monitor
2. Monitor wiring harness
3. Back up camera
4. Camera wiring harness
5. Extension cable

Warning: All electrical connections should be done after removing the negative post of the battery. Under no circumstance does qualitymobilevideo.com assume any liability. Use these instructions at your own risk. These instructions are meant as a guide but require knowledge by the installer. If you are unfamiliar please seek professional advice prior to any and all installation.

2.1 LCD Monitor

The monitor has a single pigtail with three different inputs at the end of the cord, a yellow, white and red.

2.2 Identifying the inputs

Input Color	Input Function
Yellow Input	Primary video input
White Input	Secondary Video input
Red DC Power Connector	This is the DC power connector; the center pin is positive 12volts. The outer shield is negative 12 volts.

3. Monitor wiring harness

This DC power connector plugs in to the monitor's power input on one end, and splits into two bare wires on the other

Note: In the event that the monitor will not respond please make sure it is receiving a video feed. This monitor will not turn on without receiving a video signal

3.1 Identifying the bare wires

Bare Wire color	Connection
Red	Positive + 12 volts – connect this to an electric terminal controlled by ignition
Black	Negative – 12 volts – connect this to vehicle's (metal) body/ clean ground

4. Backup Camera

The camera has a single pigtail with two different inputs at the end of the cord, a black for power and yellow for video. The camera also comes with infrared lights for nighttime use.

Note: Infrared lights on camera are not visible by the naked eye but provide a black and white picture at night.

4.1 Identifying the inputs

Input Color	Input Function
Yellow Input	Primary video input
Black DC Power Connector	This is the DC power connector; the center pin is positive 12volts. The outer shield is negative 12 volts.

5. Backup Camera Wiring Harness

This DC power connector plugs in to the camera's power input on one end, and splits into two bare wires on the other

5.1 Identifying the bare wires

Bare Wire color	Connection
Red	Positive + 12 volts – connect this to an electric terminal controlled by ignition
Black	Negative – 12 volts – connect this to vehicle's (metal) body/ clean ground

6. RCA Extension Cable

This single yellow RCA video cable is included with the camera and is designed to take the video signal from the camera and display it on the monitor. (Usually 18-25 ft long)

Note: The yellow RCA cable may have two red power wires on each end. They do not need to be connected as a part of the standard installation process. These red leads are designed to be used as alternative means of powering up the units.

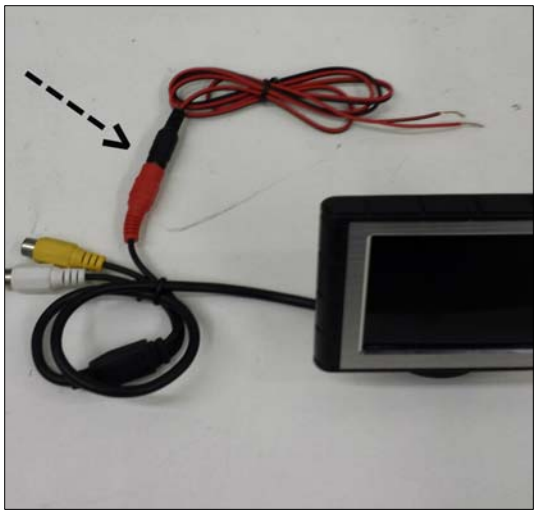
6.1 Identifying the red power leads on RCA cable

Note: These red leads are a direct pass through wire. It is as though you have a single piece of wire run the length of the RCA cable. These wires can be used to send power to the camera from the front of the vehicle, or send a reverse signal from the light to the front of the vehicle

7. (FIVE STEP STANDARD INSTALLATION)

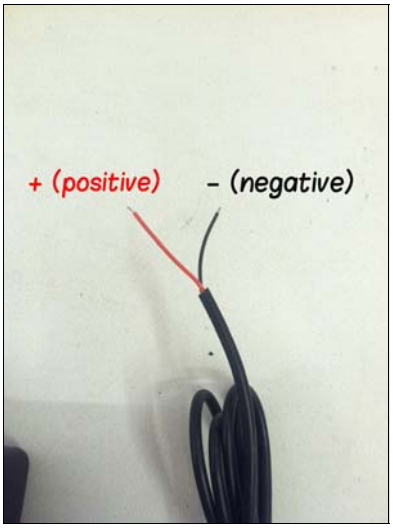
7.1 Connecting the monitor's wiring harness

Connect the wiring harness into the monitor's designated DC power connector.



7.2 Powering up the monitor

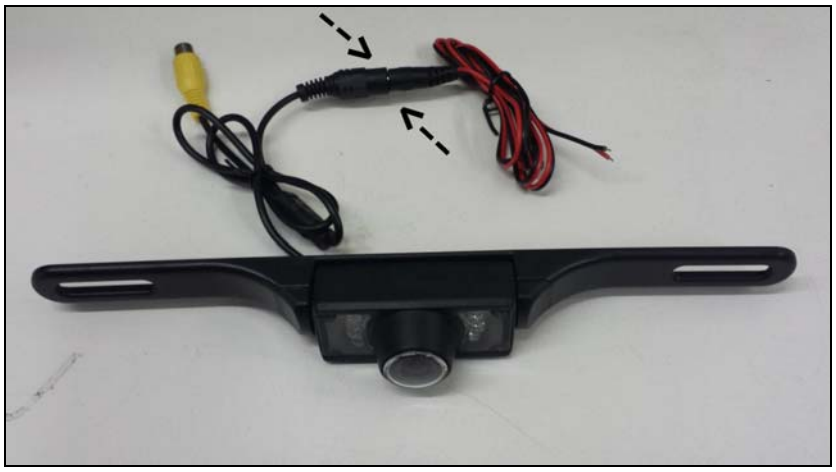
Connect the positive red wire to a 12 volt terminal that turns on with the ignition and the negative black wire to the vehicles (metal) body.



Note: For a more in depth look into tapping a 12 volt terminal, see section 8.1

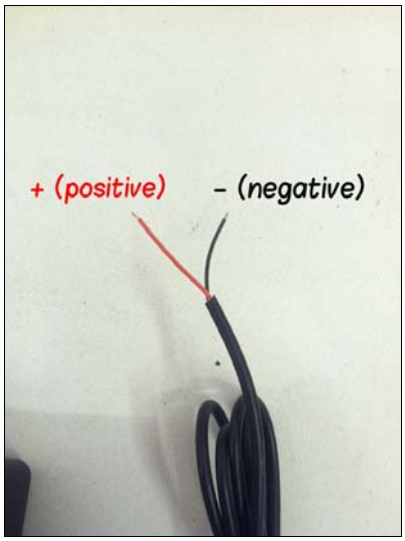
7.3 Connecting the camera's wiring harness

Connect the wiring harness into the camera's designated DC power connector.



7.4 Powering up the camera

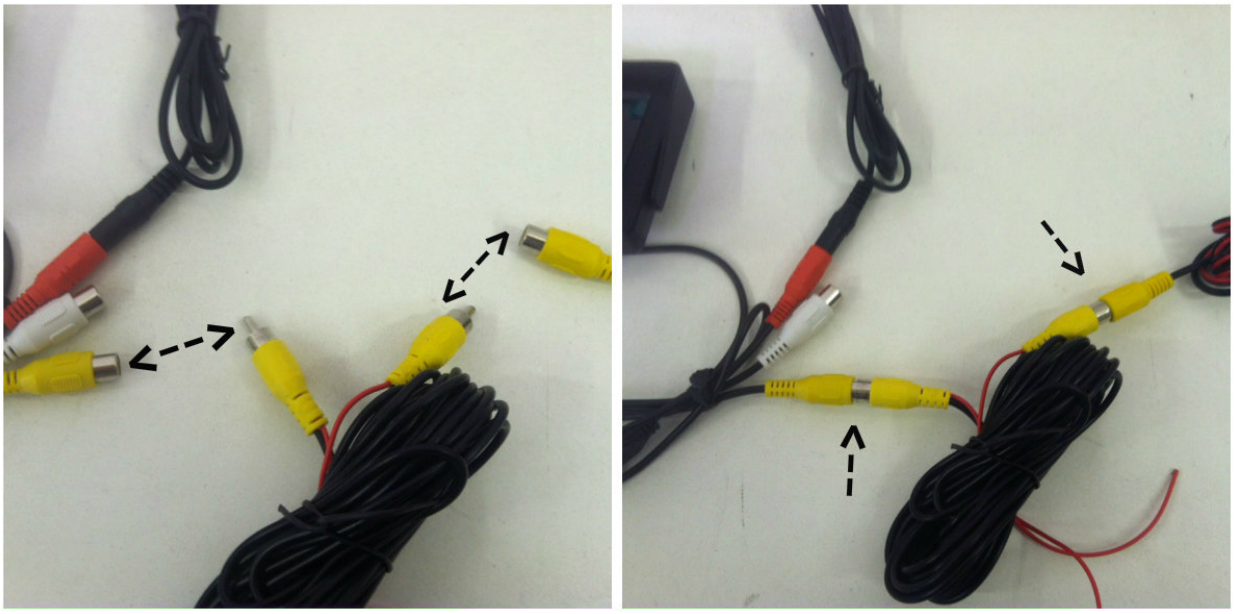
Connect the positive red wire to a +12 volt side of the reverse light and the negative black wire to the vehicles (metal) body.



Note: To have continuous operation, connect to a power source that turns on with the ignition. For a more in depth look into tapping a 12 volt terminal, see section 8.1

7.5 Connecting camera and monitor

Now that both monitor and camera are connected to a power source, connect both systems using the yellow RCA extension cable.



Note: If the yellow RCA cable has two red power wires on each end, they do not need to be connected as a part of the standard installation process. These red leads are designed to be used as alternative means of powering up the units.

7.6 Identifying the red power leads on RCA cable

Note: These red leads are a direct pass through wire. It is as though you have a single piece of wire run the length of the RCA cable. These wires can be used to send power to the camera from the front of the vehicle, or send a reverse signal from the tail-light to the front of the vehicle.

8. TAPPING INTO A POSITIVE + 12 VOLT TERMINAL

8.1 Main power connection

The main power connection can be made many different ways. You can connect main power by:

- Using a cigarette lighter cord
- Taping the back of a cigarette lighter
- Tapping power at the fuse block
- Tapping power from an auxiliary circuit
- Tapping power from the key cylinder
- Tapping directly into the reverse tail-light

The method we recommend is to connect power to the fuse block. We recommend using a voltmeter to find a fuse or circuit that turns on with the key and is not a critical circuit like "ABS pump". You typically want to tap circuits like radio, cigarette lighter, auxiliary power socket. In the event of a short circuit you will not lose a critical component that could compromise safety.

The easiest way to tap the fuse block is to purchase a fuse tap from us or any major auto parts store. The fuse tap will supply you with a terminal or wire in which you will connect to your fuse.

At the fuse block you make your positive power connection for both the monitor and camera.

The negative power connection can be made anywhere on the vehicle. We recommend that you place the ground on a factory ground terminal or prepare a new one by grinding away the paint to expose bare metal.

Warning: It is always recommended that you place an inline fuse within 6 inches of the main power tap; this protects the system and the wiring in the event of a short.

Warning: Fire is possible if inline fuse is not used and a short occurs. A 7.5 amp fuse should be placed in line prior to both the camera and monitor power connection.

8.2 Tapping Into The Reverse Tail-light

To access this you will need to remove the tail light of the vehicle.

Once you have removed the tail light of the vehicle you will use a voltmeter to determine which lead supplies 12 volts positive power. This is done by setting your voltmeter to dc volts and probing the wires to determine which is positive and what ground is.

A correct reading on the voltmeter will indicate +12 volts; some voltmeters will read negative voltage, this means that you have the positive and negative wires reversed.

Note: This step must be done with a voltmeter; guessing or using a test light will yield incorrect results. We receive many phone calls stating defective merchandise and this is the single largest mistake when installing a back up camera system.

9. SC0301-SC3102 User Guide

9.1 Monitor Controls

On the front of the monitor you will find there are no buttons. Most notably there is no **on/off** power button on this unit, instead it is built with an auto sense feature that turns on as soon as it senses any video signal, such as a backup camera.

Button Location	Function
Top Button	Controls the mirror/non mirror function
Bottom Button	Controls four designated brightness levels

10. Troubleshooting

This section of the guide should highlight common issues users may encounter and offer simple solutions.

10.1 Monitor is connected to + 12 volts but will not turn on

The SC3102 backup monitor does not have a blue standby screen when not receiving a video feed. This means that if the camera is not receiving power and sending a video signal to the monitor, it will not turn on.

1. Make sure the camera has power.
2. Make sure the camera is connected to the monitor using the RCA extension cable.

10.2 The camera system is working but has a lot of static and lines running through the picture

This is typically caused by poor ground connection or a tapped + 12 volt terminal that is receiving a lot of noise.

1. Make sure that you have a solid ground connection. If not simply find a better ground and it should solve a large majority of static or noise.
2. Ensure the terminal tapped in for + 12 volt is not receiving a lot of noise.
3. If the problem still persists after making sure there is a solid ground, we recommend tapping into a different +12 volt terminal.
4. A relay maybe required on some newer vehicles due to the lighting systems that are controlled by control modules that emit AC voltage.

10.3 Monitor is displaying a very dim picture

A dim picture on the monitor is most often caused by simple brightness level settings on the monitor or in some cases a weak power connection.

1. Make sure the brightness level settings on the monitor are not set to low.
2. If the brightness levels on the monitor are set to low adjust as desired.
3. Ensure both camera and monitor are properly connected to a strong +12 volt terminal.

10.4 Monitor randomly turns on and off

The monitor will randomly turn on or off if the incorrect reverse circuit is used. Many newer vehicles have light bulbs that have dual filaments. Dual filament bulbs typically have a three wire connection.

1. Use a voltmeter to determine which wire is the correct one to tap.
2. Meter must read 12 volts when the vehicle is placed into reverse. Any fluctuation in voltage larger than 1 volt generally means that the incorrect wire has been tapped.
3. Tap the reverse wire using an insulated wire tap.
4. The reverse light may be controlled by a lighting module; in which case a relay would be needed.

10.5 Both camera and monitor are connected +12 volts but there is still no picture

Since the SC3102 monitor has an auto-sense feature, if there is no picture on the monitor it could be due to a faulty connection on the camera end or monitor end.

1. Make sure the monitor is correctly connected to a +12 volts
2. Make sure the camera is connected to a +12 volts
3. Ensure the RCA extension cable is connected correctly on both the camera and monitor end.
4. Test the monitor using a different video source to determine if the monitor is faulty
5. Test the camera with a different monitor to determine if the camera is faulty